# United States Patent [19]

**Inagaki**

[11] **Patent Number: 4,578,811**

[45] **Date of Patent: Mar. 25, 1986**


[54] **KEY-IN DEVICE**


[75] Inventor: **Naoki Inagaki**, Tokyo, Japan

[73] Assignee: **Casio Computer Co., Ltd.**, Tokyo, Japan



[21] Appl. No.: **532,501**

[22] Filed: **Sep. 14, 1983**

[30] **Foreign Application Priority Data**

Sep. 21, 1982 [JP] Japan ..... 57-164259

[51] **Int. Cl.**[4] ..... **G06K 9/00**

[52] **U.S. Cl.** ..... **382/11**; 382/13; 382/24

[58] **Field of Search** ..... 382/3, 11, 13, 24



[56] **References Cited**

U.S. PATENT DOCUMENTS

| | | | |
|---|---|---|---|
| 4,199,751 | 4/1980 | Piguet | 382/13 |
| 4,232,290 | 11/1980 | Yasuda et al. | 382/13 |
| 4,365,235 | 12/1982 | Greanias et al. | 382/24 |

FOREIGN PATENT DOCUMENTS

| | | |
|---|---|---|
| 1480066 | 7/1977 | United Kingdom . |
| 2029619 | 3/1980 | United Kingdom . |
| 1584479 | 2/1981 | United Kingdom . |
| 2092352 | 8/1982 | United Kingdom . |
| 2104698 | 3/1983 | United Kingdom . |



*Primary Examiner*—Leo H. Boudreau

*Attorney, Agent, or Firm*—Frishauf, Holtz, Goodman & Woodward



[57] **ABSTRACT**

A key-in device has a key-in section with a matrix array of keys. A key-actuated signal corresponding to a hand-written character input by the key-in section is input to an input pattern memory of a character recognition section, where an input pattern is formed and stored. The character recognition section has a standard pattern memory, having stored the standard pattern of a character to be recognized. A first feature detecting section extracts feature data from the input pattern in the input pattern memory. A first matching section detects a standard pattern coincident with the feature data extracted from the first standard pattern memory, and produces the character data input by the key-in section as a recognizable character.


**14 Claims, 20 Drawing Figures**